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**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C.**

MASTER MINIMUM EQUIPMENT LIST

* FOR PT 91 OPS ONLY *

PIPER PA 30 AND 39

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1	03/23/84	All Pages	
2	03/30/89	Complete Revision	
3	06/26/89	HIGHLIGHTS OF REV.,DEFINITIONS	
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3b	11/13/96	HIGHLIGHTS OF REV.,DEFINITIONS	
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HIGHLIGHTS OF CHANGE		

Definitions Updated IAW PL-25, Global Change 131.

Guidelines Updated IAW applicable Policy Letter Provisos.
For (O) & (M)
Procedures

ATA 22-1 Updated IAW PL-101 (GC-103)—wording of proviso changed for relief of Autopilot System requirement.

ATA 22-2 Updated IAW PL-93—proviso added to provide Autopilot Disconnect relief.

ATA 23-1 Updated IAW PL-95 (GC-111)—relief for communications equipment per PL-95 and relocating HF relief to ATA 23-7.

ATA 23-4 Updated IAW PL-09 (GC-119)—to give relief to PA system inoperative components for passenger or cargo only operations.

ATA 23-5 Updated IAW PL-58 (GC-100)—to give relief for Boom Microphones when operated with or without CVR installed and operating.

ATA 23-7 Updated IAW PL-106 (GC-120)—MMEL location change for HF relief.

ATA 25-2 Updated IAW PL-79 (GC-134)—revised for passenger seat, armrest and recline mechanism relief.

ATA 25-4 Updated IAW PL-116 (GC-138) to include proviso change for Non—Essential Equipment and Furnishings.

ATA 25-6 Updated IAW PL-73 (GC-130)—provisions to standardize deferral of approved emergency medical equipment.

ATA 25-7 Updated IAW PL-100 (GC-114)—provisions to standardize policy and relief of Cargo Restraint Systems.

ATA 26-1 Updated IAW PL-75 (GC-53)—policy standardization for the relief of portable fire extinguishers.

ATA 33-1 Updated IAW PL-91—to give relief to use strobe lights in lieu of white position lights when the strobe is in close proximity.

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- ATA 33-4 Updated IAW PL-77 (GC-63)—revised to reflect minor changes in proviso and change repair category from D to C.
- ATA 33-7 Updated IAW PL-72 (GC-54)—revised to comply with wording in the proviso and AD 99-14-01 for Wing Illumination Lights.
- ATA 34-8 Updated IAW PL-76 (GC-133)—revised to reflect changes in the proviso on Transponder and Automatic Altitude Reporting Systems.
- ATA 34-9 Updated IAW PL-67 (GC-88)—revised to add Wind Shear Detection and Avoidance System and proviso under Weather Radar title.
- ATA 34-12 Updated IAW PL-03—revised to comply with new wording in the proviso for DME Systems.
- ATA 34-15 Updated IAW PL-39 (GC-45)—revised to comply with wording in the policy letter proviso on the Altitude Alerting System.
- ATA 34-16 Updated IAW PL-10—revised to reflect formatting changes and adding of (O) procedures to the provisos on Non-Stabilized Magnetic Compass System.
- ATA 34-18 Updated IAW PL-32 (GC-115)—revised to add new wording to the proviso for TCAS II.
- ATA 34-19 Updated IAW PL-32 (GC-115)—revised to reflect new proviso terminology.
- ATA 34-20 Updated IAW 04/28/2006 PL-54 (GC-139)--revised to reflect TAWS/GPWS equipment proviso for piston aircraft. The relief allowed by this proviso is for the equipment required for the type of operation to be conducted not the equipment installed in the aircraft.
- ATA 34-20-2 Added Windshear Warning and Flight Guidance System relief per PL-67 (GC-88).
- ATA 34-22 Updated IAW PL-98 (GC-71)—relief for inoperative Flight Management System Navigation Databases.

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HIGHLIGHTS OF CHANGE		

- ATA 34-23 Updated IAW PL-98 (GC-71)—relief for inoperative Navigation Management System Navigation Databases.
- ATA 34-24 Updated IAW PL-105 (GC-86)—to provide for ADS-B System relief.
- ATA 34-25 Updated IAW PL-111—to provide for relief of inoperable Standby Attitude Indicator.
- ATA 34-26 Updated IAW PL-115 (GC-123)—to provide for Chelton Flight Logic Electronic Instrument System (EFIS) relief.
- ATA 35-2 Updated IAW PL-43—revised to provide relief for Protective Breathing Equipment (PBE).
- ATA 77-2 Added relief for Dual EGT and CHT Digital Indicators.
- ATA 77-3 Added relief for Dual EGT and CHT Digital Indicators with original analog CHT installed.

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DEFINITIONS			

1. System Definitions.

System numbers are based on the Air Transport Association (ATA) Specification Number 100 and items are numbered sequentially.

a. "Item" (Column 1) means the equipment, system, component, or function listed in the "Item" column.

b. "Number Installed" (Column 2) is the number (quantity) of items normally installed in the aircraft. This number represents the aircraft configuration considered in developing this MMEL. Should the number be a variable (e.g., passenger cabin items) a number is not required.

c. "Number Required for Dispatch" (Column 3) is the minimum number (quantity) of items required for operation provided the conditions specified in Column 4 are met.

NOTE: Where the MMEL shows a variable number required for dispatch, the MEL must reflect the actual number required for dispatch or an alternate means of configuration control approved by the Administrator.

d. "Remarks or Exceptions" (Column 4) in this column includes a statement either prohibiting or permitting operation with a specific number of items inoperative, provisos (conditions and limitations) for such operation, and appropriate notes.

e. A vertical bar (change bar) in the margin indicates a change, addition or deletion in the adjacent text for the current revision of that page only. The change bar is dropped at the next revision of that page.

2. "Airplane/Rotorcraft Flight Manual" (AFM/RFM) is the document required for type certification and approved by the responsible FAA Aircraft Certification Office. The FAA approved AFM/RFM for the specific aircraft is listed on the applicable Type Certificate Data Sheet.

3. "As required by FAR" means that the listed item is subject to certain provisions (restrictive or permissive) expressed in the Federal Aviation Regulations operating rules. The number of items required by the FAR must be operative. When the listed item is not required by FAR it may be inoperative for the time specified by repair category.

4. Each inoperative item must be placarded to inform and remind the crewmembers and maintenance personnel of the equipment condition.

NOTE: To the extent practical, placards should be located adjacent to the control or indicator for the item affected; however, unless otherwise specified, placard wording and location will be determined by the operator.

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5. "-" symbol in Column 2 and/or Column 3 indicates a variable number (quantity) of the item installed.

6. "Deleted" in the remarks column after a sequence item indicates that the item was previously listed but is now required to be operative if installed in the aircraft.

7. "ER" refers to extended range operations of a two-engine airplane (ETOPS) which has a type design approval for ER operations (ETOPS) and complies with the provisions of Advisory Circular 120-42A.

8. "Federal Aviation Regulations" (FAR) means the applicable portions of the Federal Aviation Act and Federal Aviation Regulations.

9. "Flight Day" means a 24 hour period (from midnight to midnight) either Universal Coordinated Time (UCT) or local time, as established by the operator, during which at least one flight is initiated for the affected aircraft.

10. "Icing Conditions" means an atmospheric environment that may cause ice to form on the aircraft or in the engine(s).

11. Alphabetical symbol in Column 4 indicates a proviso (condition or limitation) that must be complied with for operation with the listed item inoperative.

12. "Inoperative" means a system and/or component malfunction to the extent that it does not accomplish its intended purpose and/or is not consistently functioning normally within its approved operating limit(s) or tolerance(s).

13. "Notes:" in Column 4 provides additional information for crewmember or maintenance consideration. Notes are used to identify applicable material which is intended to assist with compliance, but do not relieve the operator of the responsibility for compliance with all applicable requirements. Notes are not a part of the provisos.

14. Inoperative components of an inoperative system: Inoperative items which are components of a system which is inoperative are usually considered components directly associated with and having no other function than to support that system. (Warning/caution systems associated with the inoperative system must be operative unless relief is specifically authorized per the MMEL).

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15. "(M)" symbol indicates a requirement for a specific maintenance procedure which must be accomplished prior to operation with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel; however, other personnel may be qualified and authorized to perform certain functions. Procedures requiring specialized knowledge or skill, or requiring the use of tools or test equipment should be accomplished by maintenance personnel. The satisfactory accomplishment of all maintenance procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as part of the operator's manual or MEL.

16. "(O)" symbol indicates a requirement for a specific operations procedure which must be accomplished in planning for and/or operating with the listed item inoperative. Normally these procedures are accomplished by the flight crew however, other personnel may be qualified and authorized to perform certain functions. The satisfactory accomplishment of all procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as a part of the operator's manual or MEL.

NOTE: The (M) and (O) symbols are required in the operator's MEL unless otherwise authorized by the Administrator.

17. "Deactivated" and "Secured" means that the specified component must be put into an acceptable condition for safe flight. An acceptable method of securing or deactivating will be established by the operator.

18. "Visual Flight Rules" (VFR) is as defined in FAR Part 91. This precludes a pilot from filing an Instrument Flight Rules (IFR) flight plan.

19. "Visual Meteorological Conditions" (VMC) means the atmospheric environment is such that would allow a flight to proceed under the visual flight rules applicable to the flight. This does not preclude operating under Instrument Flight Rules.

20. "Visible Moisture" means an atmospheric environment containing water in any form that can be seen in natural or artificial light; for example, clouds, fog, rain, sleet, hail, or snow.

21. "Passenger Convenience Items" means those items related to passenger convenience, comfort or entertainment such as, but not limited to, galley equipment, movie equipment, ash trays, stereo equipment, overhead reading lamps, etc.

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DEFINITIONS			

22. Repair Intervals: All users of an MEL approved under FAR 121, 125, 129 and 135 must effect repairs of inoperative systems or components, deferred in accordance with the MEL, at or prior to the repair times established by the following letter designators:

Category A. Items in this category shall be repaired within the time interval specified in the remarks column of the operator's approved MEL.

Category B. Items in this category shall be repaired within three (3) consecutive calendar days (72 hours), excluding the day the malfunction was recorded in the aircraft maintenance record/logbook. For example, if it were recorded at 10 a.m. on January 26th, the three day interval would begin at midnight the 26th and end at midnight the 29th.

Category C. Items in this category shall be repaired within ten (10) consecutive calendar days (240 hours), excluding the day the malfunction was recorded in the aircraft maintenance record/logbook. For example, if it were recorded at 10 a.m. on January 26th, the 10 day interval would begin at midnight the 26th and end at midnight February 5th.

Category D. Items in this category shall be repaired within one hundred and twenty (120) consecutive calendar days (2880 hours), excluding the day the malfunction was recorded in the aircraft maintenance log and/or record.

The letter designators are inserted adjacent to Column 2.

23. Electronic fault alerting system – General

New generation aircraft display system fault indications to the flight crew by use of computerized display systems. Each aircraft manufacturer has incorporated individual design philosophies in determining the data that would be represented. The following are customized definitions (specific to each manufacturer) to help determine the level of messages affecting the aircraft's dispatch status. When preparing the MEL document, operators are to select the proper Definition No. 23 for their aircraft, if appropriate.

a. BOEING (B-757/767, B-747-400, B-777)

Boeing airplanes equipped with Engine Indicating and Crew Alerting Systems (EICAS) provide different priority levels of system messages (WARNING, CAUTION, ADVISORY, STATUS and MAINTENANCE). Any messages that affects airplane dispatch status will be displayed at a STATUS message level or higher. The absence of an EICAS STATUS or higher level (WARNING, CAUTION, ADVISORY) indicates that the system/component is operating within its approved operating limits or tolerances.

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System conditions that result only in a maintenance level message, i.e. no correlation with a higher level EICAS message, do not affect dispatch and do not require action other than as addressed within an operator's standard maintenance program.

b. Boeing (B-717, MD-10, MD-11)

These aircraft are equipped with an alerting function which is a subsystem within the Electronic Instrument System (EIS). The alerting function provides various levels of system condition alerts (WARNING, CAUTION, ADVISORY, MAINTENANCE and STATUS)

Alerts that affect aircraft dispatch will include WARNING, CAUTION, STATUS or MAINTENANCE level. MAINTENANCE alerts are displayed on the status page of the EIS display panel under the maintenance heading.

A MAINTENANCE alert on the EIS indicates the presence of a system fault which can be identified by the Central Fault Display System (CFDS) interrogation. The systems are designed to be fault tolerant, however, for any MAINTENANCE alert, the MEL must be verified for dispatch purposes.

c. AIRBUS (A-300-600, A-310, A-318/320/319/321, A-330, A-340)

Airbus aircraft equipped with Electronic Centralized Aircraft Monitoring (ECAM) provide different levels of system condition messages (WARNING, CAUTION, STATUS, and ADVISORY). A-318/320/319/ 321, A-330, and A-340 also provide MAINTENANCE status messages.

Any message that affects airplane dispatchability will normally be at the WARNING, CAUTION or STATUS level. MAINTENANCE messages (A-318/319/320/321, A-330, and A-340 only) are also indicated on ECAM Status Page below the white Maintenance label.

A MAINTENANCE status (Class II) message on ECAM indicates the presence of a system fault which can be identified by CFDS (A-318/319/320/321) or CMS (A-330/A-340).

For the A-330 and A-340, MAINTENANCE status messages do not affect dispatch. (FK-100)

Fokker aircraft are equipped with Multi Function Display System (MFDS) which provides electronic message referring to the different priority levels of system information (WARNING (red), CAUTION (amber), AWARENESS (cyan) AND STATUS (white). Any messages that affects aircraft dispatch will be at the WARNING, CAUTION or AWARENESS level. In these cases the MEL must be verified for dispatch capability and maintenance may be required.

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System conditions that only require maintenance are not presented on the flight deck. These maintenance indications/messages may be presented on the Maintenance & Test Panel (MAP) or the Centralized Fault Display Unit (CFDU) and by dedicated Built in Test Evaluation (BITE) of systems.

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DEFINITIONS			

24. "Administrative control item" means an item listed by the operator in the MEL for tracking and informational purposes. It may be added to an operator's MEL by approval of the Principal Operations Inspector provided no relief is granted, or provided conditions and limitations are contained in an approved document (i.e. Structural Repair Manual, airworthiness directive, etc.). If relief other than that granted by an approved document is sought for an administrative control item, a request must be submitted to the Administrator. If the request results in review and approval by the FOEB, the item becomes an MMEL item rather than an administrative control item.

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25. "****" symbol in Column 1 indicates an item which is not required by regulation but which may have been installed on some models of aircraft covered by this MMEL. This item may be included on the operator's MEL after the approving office has determined that the item has been installed on one or more of the operator's aircraft. The symbol, however, shall not be carried forward into the operator's MEL. It should be noted that neither this policy nor the use of this symbol provide authority to install or remove an item from an aircraft.

26. "Excess Items" means those items that have been installed that are redundant to the requirements of the FARs.

27. "Day of Discovery" is the calendar day an equipment/instrument malfunction was recorded in the aircraft maintenance log and or record. This day is excluded from the calendar days or flight days specified in the MMEL for the repair of an inoperative item of equipment. This provision is applicable to all MMEL items, i.e., categories "A, B, C, and D."

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PREAMBLE (07/15/1990)		

This preamble is applicable to, and will be included in, master minimum equipment lists (MMEL) issued under the provisions of Section 91.30(a) NEW Section 91.213(a)(2). It is not applicable to MMEL's issued under the provisions of Parts 121, 125, 129, and 135 of the FAR.

Except as provided in Section 91.30(d) NEW Section 91.213(d), or under the provisions of an approved MMEL, all equipment installed on an aircraft in compliance with the airworthiness standards or operating rules must be operative. Experience has shown that with the various levels of redundancy designed into modern aircraft, operation of every system or component installed may not be necessary when the remaining equipment can provide an acceptable level of safety.

An MMEL is developed by the FAA, with participation by the aviation industry, to improve aircraft utilization and thereby provide more convenient and economic air transportation for the public. The FAA-approved MMEL includes only those items of equipment which the Administrator finds may be inoperative and yet maintain an acceptable level of safety by appropriate conditions and limitations. The MMEL and FAA-issued letter of authorization are used as an MEL by an operator and permit operation of the aircraft with inoperative equipment.

The MMEL includes all items of installed equipment that are permitted to be inoperative. Equipment required by the FAR, and optional equipment in excess of FAR requirements, is included with appropriate conditions and limitations. For each listed item, the installed equipment configuration considered to be normal for the aircraft is specified. Items of equipment installed on aircraft (except for passenger convenience items such as galley equipment and passenger entertainment devices), such as "TCAS," windshear detection devices, and ground proximity warning systems (GPWS) that are in excess of what is required, and are not listed on the MMEL, must be operational for dispatch unless MMEL relief is sought through the FSDO having jurisdiction for the operator. If MMEL relief is sought, the operator must notify the FSDO who will make a request of the FOEB to convene and consider adding the equipment to the MMEL. The operator may then dispatch with the equipment disabled, or rendered inoperative, in accordance with all FAR. It is incumbent on the operator to endeavor to determine if O and/or M procedures for that equipment must be developed. If so, any procedures developed must comply with all FAR. Procedures developed to use the MMEL must not conflict with either the aircraft flight manual limitations, emergency procedures, or with airworthiness directives (AD), all of which take precedence over the MMEL and those procedures.

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PREAMBLE (07/15/1990)		

Suitable conditions and limitations in the form of placards, maintenance procedures, crew operating procedures, and other restrictions, as necessary, are required to be accomplished by the operator to ensure that an acceptable level of safety is maintained. Those procedures should be developed from guidance provided in the manufacturer's aircraft flight and/or maintenance manuals, manufacturer's recommendations, engineering specifications, and other appropriate sources. Procedures must not be contrary to any FAR. Wherever the statement "as required by FAR" appears in the MMEL, the operator must either list the specific FAR by part and section and carry the FAR on board the aircraft or specify the requirements and/or limitations to conduct the flight in accordance with the appropriate FAR.

The MMEL is intended to permit operations with inoperative items of equipment for the minimum period of time necessary until repairs can be accomplished. It is important that repairs be accomplished at the earliest opportunity in order to return the aircraft to its design level of safety and reliability. Inoperative equipment in all cases must be repaired, or inspected and deferred, by qualified maintenance personnel at the next required inspection Section 91.165(c), NEW Section 91.405(c). The repair intervals indicated by the Letters A, B, and C inserted adjacent to column 2 are NOT applicable to this MMEL.

The MMEL provides for release of the aircraft for flight with inoperative equipment. When an item of equipment is discovered to be inoperative, it is reported by making an entry in the aircraft maintenance records. The item is then either repaired or deferred per the MMEL or other approved means acceptable to the Administrator prior to further operation. In addition to the specific MMEL conditions and limitations, determination by the operator that the aircraft is in condition for safe operations under anticipated flight conditions must be made for all items of inoperative equipment. When these requirements are met, the aircraft may be considered airworthy and returned to service. Operators are responsible for exercising the necessary operational control to ensure that an acceptable level of safety is maintained. When operating with multiple inoperative items, the interrelationship between those items, and the effect on aircraft operation and crew workload, must be considered. Operators are expected to establish a controlled and sound repair program, including the parts, personnel, facilities, procedures, and schedules to ensure timely repair.

WHEN USING THE MMEL, COMPLIANCE WITH THE STATED INTENT OF THE PREAMBLE, DEFINITIONS, CONDITIONS, AND LIMITATIONS SPECIFIED IN THE MMEL IS REQUIRED.

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Guidelines for (O) & (M) Procedures		

The FOEB has identified a need for certain procedures to provide an adequate level of safety while providing relief for the following items. These procedures must be established by the operator. The following guidelines are to help establish these required procedures:

21-1	(M) Maintenance procedure to assure no fuel leak or mechanical or electrical fault exists.
22-1	(M) Maintenance procedure to assure no mechanical or electrical fault exists that will have an adverse effect on any flight control function.
23-4-1	(O) Operations procedure established to provide an alternate means to brief passengers.
23-7	(O) Operations procedure to ensure alternate procedures are established and used when one HF is out of service.
25-7	(M) Maintenance procedure to ensure cargo is not restrained by an inoperative Cargo Restraint System.
28-1	(O) Operations procedure to assure the quantity and balance of fuel on board meets the regulatory requirements for the intended flight.
31-2	(O) Operations procedure for recording flight time.
32-1	(O) Operations procedure to prevent movement of aircraft when stopped or parked.
33-7	(O) Operations procedure for ground deicing without use of Wing Illumination Lights.
34-9-1	(O) Operational method for alternate procedure(s) when Wind Shear Detection & Avoidance System is inoperative.
34-15	(O) Operational procedure to ensure autopilot with altitude hold is operative and enroute operations do not require use of the Altitude Alerting System.
34-16	(O) Operational procedure(s) to establish when the Non-Stabilized Magnetic Compass is not functioning normally.
34-18	(O) Operational procedure to ensure the TCAS I System is not required for the intended flight.

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Guidelines for (O) & (M) Procedures			
34-18	(M) Maintenance procedure to ensure the TCAS I System is deactivated and secured.		
34-19	(M) Maintenance procedure to ensure the TCAS II System is deactivated and secured.		
34-19-2	(O) Operational procedure to ensure all TA functions are operative and only the TA mode is selected and the inoperative item is not required for the intended flight.		
34-19-3	(O) Operations procedure to ensure all RA display and audio functions are operative and enroute and approach procedures do not require its use.		
34-20-1	(O) Operations alternate procedure(s) to ensure crew awareness of aircraft performance and altitude.		
34-20-2	(O) Operations procedure to establish alternate method when Windshear Warning and Flight Guidance System is inoperative.		
34-21-1	(O) Operations procedure to ensure crew awareness of aircraft altitude and performance when alternate procedures are established and used.		
34-21-2	(O) Operations procedure to ensure crew awareness of aircraft altitude and performance when alternate procedures are established and used.		
34-21-3	(O) Operations procedure to ensure crew awareness of aircraft altitude and performance when alternate procedures are established and used.		
34-21-6	(O) Operations procedure to ensure crew awareness of aircraft altitude and performance when alternate procedures are established and used.		
34-22-1	(O) Operations procedure established to verify status and suitability of navigation facilities used for the intended route of flight.		
34-23-1	(O) Operations procedure established to verify status and suitability of navigation facilities used for the intended route of flight.		
34-26-3	(M) Maintenance procedure required to ensure the remaining AHRS is verified to be fully operational.		

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Guidelines for (O) & (M) Procedures

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| 34-26-4 | (M) Maintenance procedure required to ensure inoperative ADC is secured and the remaining ADC is fully operational. |
| 37-1 | (M) Maintenance procedure to assure no other fault exists that could cause other damage. |

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	3. NUMBER REQUIRED FOR DISPATCH				
	4. REMARKS AND EXCEPTIONS				
21 AIR CONDITIONING					
1. Combustion Heater	C	1	0	(M)	
2. Heater Fan	C	1	0	May be inoperative provided: a) Heater or windshield de-fogging is not required on the ground, b) Heater is turned off prior to landing, and c) Heater is not operated on the ground.	
3. Heater Hourmeter	C	1	0		
4. Temperature Adjustment Control	C	1	0	May be inoperative provided heater can be turned on and off to adjust cabin temperature.	

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		4. REMARKS AND EXCEPTIONS			
22 AUTO FLIGHT					
1. Auto Pilot Systems		C	-	0	(M) May be inoperative provided operations do not require its use.
2. Autopilot Disconnect		C	-	-	One may be inoperative provided the autopilot is not utilized at less than initial approach altitude.

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	4. REMARKS AND EXCEPTIONS				
23 COMMUNICATIONS					
1. Communications Systems (VHF and UHF)	D	-	-	Any in excess of those required by FAR may be inoperative provided it is not powered by the aircraft emergency power systems and not required for emergency procedures.	
2. Cockpit Speakers	C	1	0	May be inoperative provided two operative headsets are available to the flight crew.	
3. Audio Amplifier	C	1	0	May be inoperative provided two operative headsets are available to the flight crew.	
4. Passenger Address (PA) System					
1) Passenger Configuration	C	1	0	(O) May be inoperative provided: a) PA not required by FAR, and b) Alternate, normal and emergency procedures, and/or operating restrictions are established and used.	
				NOTE: Any station function(s) that operate normally may be used.	
2) Cargo Configuration	C	1	0	May be inoperative provided alternate, normal and emergency procedures, and/or operating restrictions are established and used.	
	D	1	0	May be inoperative provided procedures do not require its use.	

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	4. REMARKS AND EXCEPTIONS				
23 COMMUNICATIONS					
5. Boom Microphones					
1) Cockpit Voice Recorder Equipped to Record Boom Microphone per FAR 135.151(d).	A	-	0	May be inoperative provided repairs are made within three flight days.	
2) Cockpit Voice Recorder *** Not Equipped to Record Boom Microphone	D	-	0	Any in excess of those required by FAR may be inoperative.	
6. Cockpit Voice Recorder *** (CVR)	A	1	0	May be inoperative provided repairs are made within three flight days.	
7. High Frequency (HF) Communication System	D	-	-	Any in excess of those required by FAR may be inoperative.	
	C	-	1	(O) May be inoperative while conducting operations that require two LRCS provided: a) SATCOM Voice or Data Link operates normally, b) Alternate procedures are established and used, c) SATCOM coverage is available over the intended route of flight, and d) If Inmarsat codes are not available while using SATCOM Voice, prior coordination with the appropriate ATS facility is required.	
				NOTE: SATCOM is to be used only as a backup to normal HF communications unless otherwise authorized by the appropriate ATS facilities.	

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	3. NUMBER REQUIRED FOR DISPATCH				
	4. REMARKS AND EXCEPTIONS				
25 EQUIPMENT/ FURNISHINGS					
1. Cockpit Crewmember Shoulder Harness	B	2	1	Right side may be inoperative provided seat remains unoccupied.	
2. Passengers Seat(s)	C	-	-	May be inoperative provided: a) Seat does not block an Emergency Exit, b) Seat does not restrict any passenger from access to the main aircraft aisle, and c) The affected seat(s) are blocked and placarded "DO NOT OCCUPY". NOTE: A seat with an inoperative seatbelt is considered inoperative.	
1) Recline Mechanism	C	-	-	May be inoperative and seat occupied provided seat is secured in the up-right position.	
2) Armrest	C	-	-	May be inoperative or missing and seat occupied provided: a) Armrest does not block an Emergency Exit, b) For an armrest with a recline mechanism, seat is secured in the upright position.	
3. Flotation Equipment	C	-	-	As required by FAR.	

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25 EQUIPMENT/ FURNISHINGS					
4. Passenger Convenience Items (Expires on November 1, 2007)		-	-	Passenger convenience items, as expressed in this MMEL are those related to passenger convenience, comfort or entertainment such as, but not limited to, galley equipment, movie equipment, ashtrays, stereo equipment, overhead reading lamps. Items addressed elsewhere in this document shall not be included. (M) and (O) procedures may be required and included in the air carrier's appropriate document.	
Non-Essential Equipment & Furnishings (NEF) (Before or after November 1, 2007)		-	-	May be inoperative, damaged, or missing provided that the item(s) is deferred in accordance with the operator's NEF deferral program. The NEF program, procedures, and processes are outlined in the operators (insert name) Manual. (M) and (O) procedures, if required, must be available to the flight crew and included in the operator's appropriate document.	
5. Emergency Locator Transmitter (ELT)	C	1	0	As required by FAR.	
	C	1	0	May be inoperative for scheduled flights in scheduled air carrier service.	
6. Emergency Medical Kit and/or Associated Equipment	D	-	-	Any in excess of those required by FAR may be incomplete, missing or inoperative provided that at least one kit contains the minimum content required by the FARs.	

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	4. REMARKS AND EXCEPTIONS				
25 EQUIPMENT/ FURNISHINGS					
7. Cargo Restraint Systems	C	-	-	(M) May be inoperative, or missing provided acceptable cargo loading limits from an approved source, i.e., an Approved Cargo Loading Manual, Cargo Handling Manual, or Weight and Balance Document are observed.	
	C	-	-	May be inoperative, or missing provided cargo compartment remains empty.	

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	4. REMARKS AND EXCEPTIONS				
26 FIRE PROTECTION					
1. Portable Fire Extinguishers	D	-	-	Any in excess of those required by FAR may be inoperative or missing provided: a) The inoperative fire extinguisher is tagged inoperative, removed from its installed location, and placed out of sight so that it can not be mistaken for a functional unit, and b) The required distribution is maintained.	

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	2. NUMBER INSTALLED				
	3. NUMBER REQUIRED FOR DISPATCH				
	4. REMARKS AND EXCEPTIONS				
27 FLIGHT CONTROLS					
1. Electric Stabilator Trim	C	1	0	May be inoperative provided manual trim is operative and unimpaired.	
2. Flap Position Indicator	C	1	0	May be inoperative provided: a) Flaps are visually checked for full travel and flap operations is not impaired, and b) Flaps are visually checked full up prior to each departure.	
3. Trim Tab Position Indicators (Stabilator and Rudder)	C	2	0	May be inoperative provided: a) Tab is visually checked for full range of operation, b) Tab operation is not impaired, and c) Tab is positioned to neutral prior to each departure and neutral position is verified by visual inspection.	

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	3. NUMBER REQUIRED FOR DISPATCH				
	4. REMARKS AND EXCEPTIONS				
28 FUEL					
1. Fuel Quantity Indicators	C	2	1	(O) One may be inoperative provided a reliable means is established to determine that fuel on board is sufficient to meet regulatory requirements for the intended flight.	

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	4. REMARKS AND EXCEPTIONS				
30 ICE AND RAIN PROTECTION					
1. Surface Deicing System (Wing, Horizontal and Vertical Stabilizer)	C	1	0	May be inoperative provided flight is not conducted in known or forecast icing conditions.	
2. Propeller Anti-Icing System	C	1	0	May be inoperative provided flight is not conducted in known or forecast icing conditions.	
3. Windshield Deice System	C	1	0	May be inoperative provided flight is not conducted in known or forecast icing conditions.	
4. Pitot Heater	B	1	0	May be inoperative provided: a) Passengers are not carried under IFR, and b) Aircraft is not operated in known or forecast icing conditions. NOTE: Two heated pitot tubes are required for these conditions if a second airspeed indicator is installed and operative.	
5. Stall Warning/Heater	C	1	0	May be inoperative provided flight is not conducted in known or forecast icing conditions.	

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		4. REMARKS AND EXCEPTIONS			
31 INDICATING/ RECORDING SYSTEMS					
1. Clock with Sweep Second Hand or Electric Digital Clock.		C	1	0	May be inoperative for VFR.
2. Flight Hour Recorder		C	1	0	(O)

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	4. REMARKS AND EXCEPTIONS				
32 LANDING GEAR					
1. Parking Brake	C	1	0	(O)	

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	4. REMARKS AND EXCEPTIONS				
33 LIGHTS					
1. Position Lights	C	3	0	May be inoperative for day operations. NOTE: Wing and tail strobe lights may be used in lieu of respective wing and tail white position lights but may not be used in place of the red and/or green wing tip position lights during night operations. A strobe light must be in close proximity to a white wing or tail position light to be used in lieu of that white position light.	
2. Anti-Collision/Beacon Light System	B	1	0	May be inoperative for day operations.	
3. Landing Lights	C	2	0	Both may be inoperative for day operations.	
	C	2	1	One may be inoperative for night operations.	
4. Cockpit/Flight Compartment and Instrument Lighting System	C	-	-	Individual lights may be inoperative provided remaining lights are: a) Sufficient to clearly illuminate all required instruments, controls, and other devices for which it is provided, b) Positioned so that direct rays are shielded from the crewmembers eyes, and c) Lighting configuration and intensity is acceptable to the flight crew.	

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33 LIGHTS					
5. Cabin Lights	C	-	-	May be inoperative provided: a) Sufficient lighting is operative for the crew to perform required duties, and b) Lighting configuration is acceptable to the flight crew.	
6. Strobe Light System	C	1	0		
7. Wing Illumination Lights	C	-	0	(O) May be inoperative provided ground deicing procedures do not require their use. NOTE: Must be operative prior to flight into known or forecast icing conditions at night (AD 99-14-01).	

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	4. REMARKS AND EXCEPTIONS				
34 NAVIGATION					
1. Altimeter, Adjustable for Barometric Pressure	B	2	1	May be inoperative on right side.	
2. Airspeed Indicator	C	2	1	May be inoperative on right side.	
3. Vertical Speed Indicator	B	1	0	Must be operative on left side for IFR passenger carrying.	
4. Deleted					
5. Gyroscopic Rate of Turn/Slip Skid Indicator	B	1	0	Must be operative on left side for IFR, passenger carrying VFR over-the-top, and passenger carrying VFR night flights.	
6. Gyroscopic Pitch and Bank Indicator	B	2	1	May be inoperative on right side.	
7. Gyroscopic Direction Indicator	B	2	1	May be inoperative on right side.	
8. ATC Transponders and Automatic Altitude Reporting Systems	B	-	0	May be inoperative provided: a) Enroute operations do not require its use, and b) Prior to flight, approval is obtained from ATC facilities having jurisdiction over the planned route of flight.	
	D	-	1	Any in excess of those required by FAR may be inoperative.	

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	4. REMARKS AND EXCEPTIONS				
34 NAVIGATION					
9. Weather Radar/Thunderstorm Detection Equipment	C	-	0	As required by FAR.	
1) Windshear Detection and Avoidance System	C	-	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Windshear Warning and Guidance System operates normally.	
	C	-	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Takeoffs and landings not conducted in known or forecast windshear conditions.	
10. Navigation Equipment (VOR/ILS, Loran, Omega/VLF, INS, Doppler, GPS)	C	-	-	As required by FAR.	
11. Marker Beacon Receiver	C	1	0	May be inoperative provided approach procedure does not require its use.	
12. Distance Measuring Equipment (DME) Systems	D	-	-	Any in excess of those required by FAR may be inoperative.	
13. ADF	C	1	0	As required by FAR.	
14. RMI	C	1	0		

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	4. REMARKS AND EXCEPTIONS				
34 NAVIGATION					
15. Altitude Alerting System	A	-	0	(O) May be inoperative provided: a) Autopilot with altitude hold is operative, b) Enroute operations do not require its use, and c) Repairs are made within three flight days.	
	C	-	0	May be inoperative provided it is not required by FAR.	
16. Non-Stabilized Magnetic Compass	B	1	0	(O) May be inoperative provided any combination of three Gyro or INS (IRU) Stabilized Compass Systems are operative.	
	B	1	0	(O) May be inoperative provided: a) Any combination of two Gyro or INS (IRU) Stabilized Compass Systems operate normally, and b) Airplane is operated with Dual Independent Navigation Capability and under Positive Radar Control by ATC on the enroute portion of the flight.	
	B	1	0	(O) May be inoperative for flights that are entirely within areas of magnetic unreliability provided at least two Stabilized Directional Gyro Systems are installed, operate normally, and used in conjunction with approved Free Gyro Navigation Techniques.	
17. Altitude Encoder				Combined with ATC Transponders, Revision 3b.	

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34 NAVIGATION					
18. Traffic Alert Collision Avoidance System (TCAS I)	B	-	0	(M)(O) May be inoperative provided: a) System is deactivated and secured, and b) Enroute or approach procedures do not require its use.	
	C	-	0	(M)(O) May be inoperative provided: a) Not required by FAR, b) System is deactivated and secured, and c) Enroute or approach procedures do not require its use.	
19. Traffic Alert and Collision Avoidance System (TCAS II)	B	-	0	(M) May be inoperative provided: a) System is deactivated and secured, and b) Enroute or approach procedures do not require its use.	
	C	-	0	(M)(O) May be inoperative provided: a) Not required by FAR, b) System is deactivated and secured, and c) Enroute or approach procedures do not require its use.	
1) Combined Traffic Alert(TA) and Resolution Advisory (RA) Dual Display System(s)	C	2	1	May be inoperative on the non-flying pilot side provided: a) TA and RA visual display is operative on the flying pilot side, and b) TA and RA audio function is operative on the flying pilot side.	
2) Resolution Advisory (RA) Display System(s)	C	2	1	May be inoperative on non-flying pilot side.	
(continued on next page)					

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34 NAVIGATION					
19. TCAS II (continued)					
2) Resolution Advisory(RA) Display System(s) (continued)	C	-	0	(O) May be inoperative provided: a) Traffic Alert (TA) visual display and audio functions are operative, b) TA only mode is selected by the crew, and c) Enroute or approach procedures do not require its use.	
3) Traffic Alert Display System(s)	C	-	0	(O) May be inoperative provided: a) RA visual display and audio functions are operative, and b) Enroute or approach procedures do not require its use.	
20. Class C TAWS Equipment					
1) TAWS/GPWS ***	C	1	0	(O) May be inoperative provided alternate procedures are established and used. Note: Any mode that operates normally may be used.	
2) Windshear Warning and Flight Guidance System	C	-	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Windshear Detection and Avoidance System operates normally.	
	C	-	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Takeoffs and landings are not conducted in known or forecast windshear conditions.	

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34 NAVIGATION					
21. Flight Profile Advisory *** System					
1) Gear Mode	A	1	0	(O) May be inoperative provided: a) Alternate procedures are established and used and b) Repairs are made within two flight days.	
2) Minimums Mode	A	1	0	(O) May be inoperative provided: a) Alternate procedures are established and used and b) Repairs are made within two flight days.	
3) Radio Altitude Mode	A	1	0	(O) May be inoperative provided: a) Alternate procedures are established and used and b) Repairs are made within two flight days.	
4) Test Mode	A	1	0	May be inoperative provided: a) The FPAS is considered inoperative and b) Repairs are made within two flight days.	
5) Glideslope Deviation Mode	B	1	0		
6) Advisory Callouts	C	-	0	(O) May be inoperative provided alternate procedures are established and used.	

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34. NAVIGATION					
22. Flight Management System					
1) Navigation Databases	C	-	-	(O) May be out of currency provided: a) Current Aeronautical Charts are used to verify Navigation Fixes prior to dispatch, b) Procedures are established and used to verify status and suitability of Navigation Facilities used to define route of flight, and c) Approach Navigation Radios are manually tuned and identified.	
23. Navigation Management System					
1) Navigation Databases	C	-	-	(O) May be out of currency provided: a) Current Aeronautical Charts are used to verify Navigation Fixes prior to dispatch, b) Procedures are established and used to verify status and suitability of Navigation Facilities used to define route of flight, and c) Approach Navigation Radios are manually tuned and identified.	

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34. NAVIGATION					
24. Automatic Dependent Surveillance-Broadcast (ADS-B) System	D	-	0	May be inoperative provided it is not required by 14 CFR. NOTE: If ADS-B is installed in lieu of or as a replacement for 14 CFR required equipment, the repair category in the operator's MEL will be the same as that of the 14 CFR required equipment.	
1) Link and Display Processor Unit (LDPU)	D	-	0	NOTE: Cockpit Display Traffic Information (CDTI) display of data from other aircraft systems may be used.	
2) Cockpit Display and Traffic Information (CDTI)	D	-	0	NOTE: ADS-B data transmissions may continue.	
3) CDTI Control Panel	D	-	0	May be inoperative provided: a) Flight ID can be set, and b) Screen display is acceptable to the flight crew.	
4) Data Link Transmitter(s)	D	-	0		
5) Data Link Receivers	D	-	0		

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34. NAVIGATION					
25. Standby Attitude Indicator	C	-	0	May be inoperative provided not required by FAR.	
	B	-	0	May be inoperative provided: a) Operations are conducted in Day VMC only, and b) Operations are not conducted into known or forecast over-the-top conditions.	
26. Chelton Flight Logic Electronic Instrument System (EFIS)					
1) Navigation Display (ND) Integrated Display Unit (IDU)	A	1	0	May be inoperative provided: a) The IDU operating as Primary Flight Display (PFD) is operative and b) Navigation equipment exists suitable to the route being flown and c) Paper charts and procedures are used for flight navigation and d) Repairs are made within one (1) flight day.	
2) Primary Flight Display (PDF) Integrated Display Unit (IDU)	A	1	0	May be inoperative provided: a) The IDU operating as a Navigation Display (ND) is operative and can function PFD and ND, and b) Repairs are made within one (1) flight day.	

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	4. REMARKS AND EXCEPTIONS				
34. NAVIGATION					
3) Altitude, Heading, Reference System (AHRS)	A	2	1	(M) May be inoperative provided: a) The remaining AHRS is verified to be fully operational, b) Fully functioning basic flight instruments (attitude, airspeed, altitude, and heading) information is installed within the flying pilot's primary field of view, c) Navigation equipment exists suitable to the route being flown is available and used and, d) Repairs are made within one (1) flight day.	
	A	-	0	May be inoperative for Day VFR provided: a) Fully functioning basic flight instruments (attitude, airspeed, altitude, and heading) information is installed within the flying pilot's primary field of view, and b) Repairs are made within one (1) flight day.	
4) Air Data Computer	A	2	1	(M) May be inoperative provided: a) The remaining ADC is verified to be fully operational, b) Fully functioning basic flight instruments (attitude, airspeed, altitude, and heading) information is installed within the flying pilot's primary field of view, c) Navigation equipment exists suitable to the route being flown is available and used and, d) Repairs are made within one (1) flight day.	
(continued on next page)					

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34. NAVIGATION					
4) Air Data Computer (continued)	A	-	0	May be inoperative for Day VFR provided: a) Fully functioning basic flight instruments (attitude, airspeed, altitude, and heading) information is installed within the flying pilot's primary field of view, and b) Repairs are made within one (1) flight day.	
5) Analog Interface Unit	C	1	0	May be inoperative provided: a) Connected equipment is not required by FAR, and b) Connected equipment is deferred by MEL procedures.	

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		4. REMARKS AND EXCEPTIONS			
35 OXYGEN					
1. Oxygen System (Passenger)		C	1	0	As required by FAR.
2. Protective Breathing Equipment (PBE)		D	-	-	Any in excess of those required by FAR may be inoperative.

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	4. REMARKS AND EXCEPTIONS				
37 VACUUM/PRESSURE					
1. Engine Driven Vacuum Pumps	C	2	1	(M) One may be inoperative for day VMC.	

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	4. REMARKS AND EXCEPTIONS				
61 PROPELLERS					
1. Propeller Synchronizer	C	1	0		

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	4. REMARKS AND EXCEPTIONS				
77 ENGINE INDICATING					
1. EGT Indicators	C	2	0		
2. Dual EGT and CHT Digital Indicators	B	2	0	EGT function may be inoperative provided CHT are operative.	
3. Dual EGT and CHT Digital Indicators with Original Analog CHT Installed.	C	2	0	May be inoperative provided original analog CHT are operative.	